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AUTHOR DeVellis, Robert F.; And Others
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ABSTRACT

The occurrence of unpredictable and often unavoidable aversive seizures in epilepsy bears a striking resemblance to the conditions known to induce learned helplessness. Additionally, depression and other characteristics associated with helplessness seem to occur more frequently among persons with epilepsy. Data from a national survey of individuals having epilepsy (N=286) suggest that certain seizure experiences may contribute to a sense of helplessness and that this, in turn, may influence health related behaviors. However, the proportions of explained variance in each of these relationships, while statistically significant, was far less than the proportion which remained unexplained. Results indicate that social support may either mitigate against the development of learned helplessness or serve to disrupt existing helplessness. (Author/KMF)

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EPILEPSY AS AN ANALOGUE OF LEARNED HELPLESSNESS

Robert F. DeVellis
Division TEACCH
Department of Psychiatry

Brenda McEvoy DeVellis
Department of Health Education
School of Public Health

University of North Carolina at Chapel Hill

Barbara Strudler Wallston
Department of Psychology and Human Development
George Peabody College

Kenneth A. Wallston
School of Nursing

Vanderbilt University

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Address all correspondance to Robert F. DeVellis, Division TEACCH, 214 Medical School Wing B, 207H, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, 27514.

There is a growing awareness among health practitioners and researchers that psychosocial factors can exert a substantial influence on the physical wellbeing of individuals. Stated somewhat differently, it is becoming increasingly evident that theory and research examining perceived control and other psychological constructs can make a meaningful contribution to the understanding of health and disease. It is equally evident that the converse is also true--i.e., that studying certain health problems can help us to test theories of control (c.f., Schulz, 1976). Physical disorders and their psychosocial consequences sometimes constitute a striking analogue to procedures developed in the laboratory. The similarities between epilepsy and learned helplessness are an example of such a parallel. In the time remaining, I would like to discuss the nature of that parallel briefly, summarize out most recent research examining epilepsy and helplessness, and share our current thoughts and our plans for further research. Parenthetically, I would like to add that we see the ultimate goal of our research as addressing both of the benefits I suggested earlier: increasing understanding of control by studying epilepsy (and other disorders) and increasing understanding of the adjustment of individuals with these disorders by applying theories of control.

Let us begin discussing the epilepsy-helplessness parallel by pointing out that most people with epilepsy are not helpless; their seizures are adequately regulated by medication and their epilepsy is more an inconvenience than a handicap. Unfortunately, other individuals experience epilepsy in a less benign form. Their seizures may not be well regulated despite the fact that they aretaking anticonvulsants. It is these individuals whose circumstance parallels a helplessness induction procedure. They experience socially and physically aversive events (seizures) which can neither be predicted nor avoided. There may be little or nothing the person can do to alter the

probability of these events. Helplessness research indicates that factors besides exposure to unpredictability or uncontrollability may influence the development of helplessness (DeVellis & McCauley, 1979; Seligman, 1975). These include the frequency, aversiveness, and personal importance of the uncontrollable stimulus. For many individuals with epilepsy, their seizures are uncontrollable, frequent, severe, and of major personal importance-- a combination of factors which is highly conducive to the development of helplessness.

The degree of predictability or avoidability of seizures, their severity, the number of years the person has had a seizure disorder, and other factors relevant to the development of learned helplessness are variable. For example, some people among the groups of epileptic patients we have studied whose seizures cannot be regulated by medication report that the occurrence of a seizure is preceded by certain sensations, that seizures are more likely to occur under certain circumstances, or that engaging in specific activities seems to abort an impending seizure. For other individuals these subjective experiences of control or predictability are absent or markedly reduced. This variability within a group of people with epilepsy makes it possible to examine the degree to which a subjective experience of control and other epilepsy-related factors influence the degree of helplessness that people with different seizure histories develop.

To this point, we have been discussing events in the life of a person with epilepsy which parallel the antecedents of learned helplessness in a laboratory. There is also a parallel between the consequences of learned helplessness and the adjustment of many individuals with intractable seizures. Depression, ineffective problem solving, and reduced motivation are cardinal characteristics of learned helplessness (Seligman, 1975).

Several of these have been reported as common among epileptics. Depression, for example, is a problem frequently identified by researchers as disproportionally common among people with epilepsy (e.g., Betts, 1974; Mellor, Lowit, &Hall, 1974). Underachievement (Milne, 1974) and inattentiveness (Stores, Hart, & Piran, 1978) are examples of other helplessness-like characteristics reported for this population in the research literature. Anecdotally, counselors we have spoken to who work with clients having epilepsy often describe these clients as "feeling helpless" or "feeling that there is nothing they can do for themselves." Similarly, themes of futility or fatalism have been reflected in letters we have received from research participants and their families. Thus, both anecdotal and empirical evidence indicate that manifestations of helplessness are relatively common among individuals with epilepsy.

About three years ago, having noted the apparent similarity between the experiences of people with epilepsy and the development of learned helplessness, we began an investigation to look at this parallel more sytematically. Specifically, we were interested in two links: (a) the relationship of seizure parameters (like perceived control over seizures and severity of seizures) to manifestations of helplessness, and (b) the relationship of these manifestations to reports of health related behavior (such as medicine taking and seeking information about epilepsy). Because we were interested in relationships that had not been studied previously, we wanted to consider a fairly large number of potentially important seizure parameters, modifier variables, and outcomes so that a more global picture of their interrelationships would emerge. We designed a self-report survey for this purpose and received funding from the Epilepsy Foundation of America to conduct the research.

Several conclusions resulted from this study of 286 epileptic individuals which is described in greater detail elsewhere (DeVellis, DeVellis, Wallston, & Wallston, 1980; DeVellis, DeVellis, Wallston, & Wallston, Note 1). First, we found that a significant relationship does exist between theoretically relevant seizure parameters and learned helplessness. As a means of operationalizing helplessnes, we looked at depression, generalized locus of control, and health-specific locus of control. As predicted epileptic individuals (a) whose seizures were perceived as less controllable, less predictable, and more severe; and (b)who had more extensive exposure to having epilepsy (e.g., who had the disorder longer, or remembered their seizures more often) had patterns of scores on the locus of control and depression measures which were more indicative of learned helplessness. That is, they were generally more depressed, less internal (particularly with regard to health outcomes), and believed more in the influence of fate or chance. The dependency of these individuals' lifestyle was also consistently related to these criterion variables.

While these results were quite encouraging from the perspective of theory verification, it should be noted that the proportions of variance in criterion variables which was explained was quite modest (i.e., 7-12%). This may have been due in part to a conservative bias. The most helpless people receiving our questionnaire were probably less likely to return it. The resulting truncation in the range of variables would limit the magnitude of obtained correlations.

The second component of this study concerned the relationship between helplessness and reported inclination to engage in health behaviors. These results were somewhat less consistent than those just discussed, but there were several significant findings linking our helplessness measures to the health related behaviors.

We are still in the process of analyzing some of these data, but thusfar, our analyses suggest that the contribution of depression scores to the prediction of health related behaviors may be less important than the locus of control information. Furthermore, the more specific MHLC measures seemed to be better predictors, as might be expected, of health related behaviors than were the general LOC scales. Once again, the R^2s obtained were statistically significant but fairly modest (.15 or less).

In sum, the results of our self-report survey, while not answering all of our questions, were encouraging. Significant relationships were observed both between seizure parameters and helplessness and, between control-relevant variables and inclination toward health behaviors. However, a good deal of variance was left unexplained and our findings were rather ambiguous with respect to the helplessness-health behavior relationship. We believe that these shortcomings are due, in part, to two factors. First, some of the measures used in the first study were imprecise. For example, we were unable to differentiate between internally versus externally motivated failures to take medication as prescribed. As we suggested earlier, deviating from prescribed medication usage because you perceive your condition to be inalterable is psychologically very different than a similar deviation motivated by the belief that you, not the doctor, can best determine the

optimal dosage. A measurement procedure capable of detecting differences of this sort may have reduced our error variance. A second shortcoming might have been the exclusion of variables which modify either the impact of seizure parameters on the formation of helplessness or the impact of helplessness on reported behavior.

Two members of our original research team (R. DeVellis and B. DeVellis) have recently designed a second survey aimed at reducing these and other shortcomings. Procedurally, we have opted for an interview rather than self-report format. In this way, we hope that ambiguous responses can be clarified by allowing the interviewer to ask additional questions. We hope that this procedure, combined with the rewording of several items, will allow us to assess variables more reliably.

Regarding the inclusion of additional variables, two major changes are planned for our interview study. First, we will have access to patients' medical records and are collaborating with a neurologist so that judgments of compliance with regimen can be based on multiple criteria. That is, in addition to self-reported deviations from prescribed regimen, we will have access to records of anticonvulsant blood levels and physicians' judgments of compliance.

A second, and theoretically more interesting addition to our variables is social support. A substantial number of studies using both human and nonhuman subjects suggest that the presence of others can mitigate against the potentially harmful effects of environmental stressors (c.f., Dean & Lin, 1977; Kaplan, Cassel, & Gore, 1977; Hamburg &Killiea, 1979). However, the mechanism by which social support has this effect is unknown. A number of studies have also shown that social support leads to increased compliance with medical regimen. One study in particular (Caplan, Robinson, French, Caldwell, & Shinn, 1976) systematically studied the interrelationships

among social support, compliance, and a host of other variables. Interestingly, social support had no direct effect on compliance. Rather, a lack of social support was associated directly with higher depression, lower motivation to comply, and a lower perception of the consequences of noncompliance. These three factors, which sound very much like a description of a helpless person, were in turn associated with reduced compliance.

Based on these and other data, we are speculating that one of the important elements in understanding the relationship between epilepsy and learned helplessness involves social support. We are further speculating that social support may either mitigate against the development of learned helplessness or serve to disrupt helplessness that is already extant. The testing of these speculations will be a major component of our interview project. Should these speculations be confirmed, our understanding of both perceived control and epilepsy will have increased.

To summarize, our research to date points to a significant and convergent but weak relationship between certain types of seizure experiences and the presence of learned helplessness. The expected relationship between helplessness and reduced inclination to engage in adaptive health-related behaviors is less consistently evident. We plan to test the notion that social support might be a moderator variable which intervenes either between seizure experiences and the development of helplessness or between helplessness and inclination toward certain behaviors. To the extent that our speculations are correct, we hope to increase the proportion of explained variance among the variables of interest. This research strategy is predicated on the assumption that viewing epilepsy as a naturally occurring analogue to learned helplessness can tell us more about the nature of epilepsy and, at the same time, can increase our understanding of learned helplessness.

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